KENWOOD VR-3100

MODEL

USER MANUAL

Chapter One: Connecting Your Devices

Welcome to the Kenwood VR-3100/VR-3090/KRF-V9992D Connection and Setup Guide. This chapter guides you through connecting your home entertainment devices to your new Kenwood audio-video receiver.

Once all your devices are connected, you can set up the PowerTouch (see Chapter Two).

Refer to the following pages for details on connecting these devices:

Speakers	page 4
TV	page 8
VCR(s)	page 12
CD Player, Kenwood 200-Disc Changer	page 14
DVD Player	page 16
MD Recorder	page 18
Tape Deck(s)	page 18
Laser Disc Player	page 22
Turntable	page 26
Camcorder/Second VCR	page 27
Antennas	page 29

All necessary cables should be provided with your home entertainment device (not with your new receiver). If you do not have the correct cables, you may purchase these cables from any home entertainment store or by visiting the Kenwood USA Web site: www.kenwoodusa.com (for USA and Canada only).

To make coaxial digital connections, be sure to use a high-quality digital audio cable, not a standard audio cable.

Do not plug in the receiver or any other device to AC power until all connections have been made. Once all devices have been connected, you may plug them in and provide power.

Important:

Your new receiver requires adequate ventilation to perform reliably. Be sure not to block the ventilation area on the top or back (or both sides) of the receiver with another device. These areas should be:

USA and Canada: at least 6 inches (15 cm) from any obstruction.

Other countries: at least top; 50cm, back; 10cm, and left and right side; 10cm.

Do not install your receiver where direct sunlight or high frequency flourescent lighting can shine directly into the remote sensor. This can cause your new receiver to malfunction.

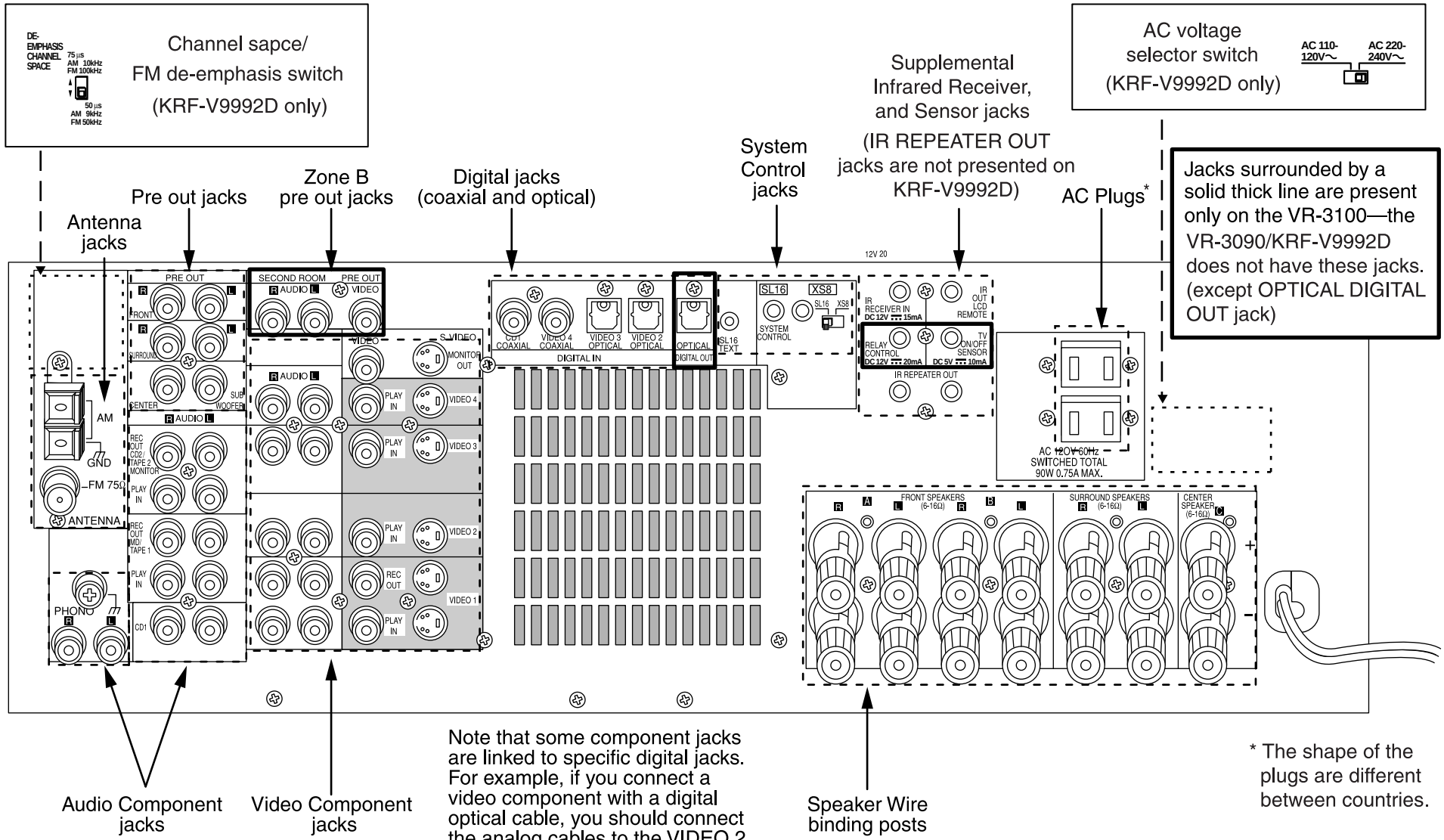
Before You Begin

This manual covers the most common and standard connections to the receiver. Because of its versatility, you may decide to connect your devices differently.

Before making any video connections to the your receiver :

- You can use either S-Video or standard composite (RCA) video connections.
- If all of your video devices and TV have S-Video connectors, we suggest that you use them exclusively, since it will provide superior video performance.
- If only some of your video devices and TV have S-Video connectors, you can still use them for those devices and the TV. Use the composite connectors for your devices that don't have S-Video connectors. In this case you'll also have to connect the receiver's composite Video Monitor output to your TV for your non S-Video devices and switch between inputs on TV.
- If your TV doesn't have S-Video connectors, you can't use S-Video connections for any of your video devices. Use the composite connectors exclusively.
- If your TV does not have any video connections at all (it only has antenna connections), you must purchase an RF modulator that converts video signals into antenna signals to use it with the VR-3100/VR-3090/KRF-V9992D. You should be able to find an RF modulator at a store specializing in electronic parts.
- If you plan on using the VR-3100 in a Dual-Zone application (see Chapter Three), you must use the composite video connections in addition to any S-Video connections. Only video sources connected with composite connectors can be viewed in the second zone.

The following diagram shows the entire back of the VR-3100/VR-3090/KRF-V9992D.


Channel sapce/
FM de-emphasis switch
(KRF-V9992D only)
AC voltage
selector switch
(KRF-V9992D only)
Supplemental
Infrared Receiver,
and Sensor jacks
(IR REPEATER OUT
jacks are not presented on
KRF-V9992D)
System
Control
jacks
Digital jacks
(coaxial and optical)
Zone B
pre out jacks
Pre out jacks
Antenna
jacks
AC Plugs*
Jacks surrounded by a solid thick line are present only on the VR-3100—the VR-3090/KRF-V9992D does not have these jacks. (except OPTICAL DIGITAL OUT jack)
Audio Component jacks
Video Component jacks
Note that some component jacks are linked to specific digital jacks. For example, if you connect a video component with a digital optical cable, you should connect the analog cables to the VIDEO 2 video component jacks and the digital cable to the VIDEO 2 digital optical jack.
Speaker Wire binding posts
* The shape of the plugs are different between countries.

Noting Your Devices

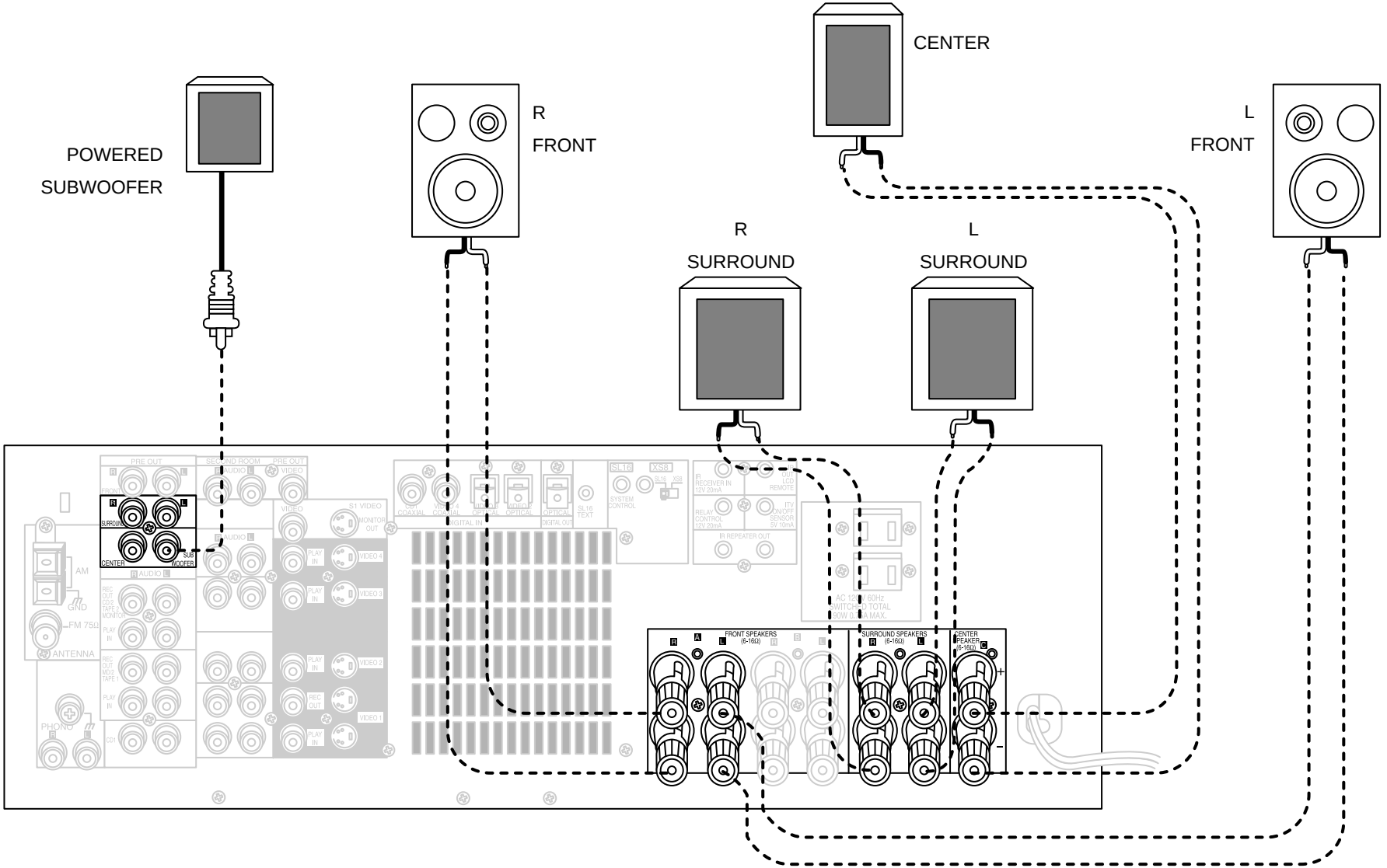
Jack Set	Device	Manufacturer	Model #	Setup Code
Phono				———
CD1				
MD/Tape1				
CD2/Tape2 Monitor				
Video (TV1 on PowerTouch)				
Video1				
Video2				
Video3				
Video4				

Use this table and the diagram on the preceding page to plan your connections before you make them, or use it to record your connections as you make them. If you will be connecting a DVD player or other device with a digital output, please refer to the following chart before choosing a video jack set:

If your digital cable is...	Choose this jack set...
coaxial	VIDEO4
optical	VIDEO2 or 3

You will need this information later, when you set up your PowerTouch (see "Identifying Devices For PowerTouch Control" on page 35). Recording this information now will save you additional trips behind your home entertainment cabinet. You will fill in the Setup Code column when you are setting up PowerTouch.

Connecting Your Speakers



Connecting Your Speakers, continued

Do not plug in the receiver to AC power until all connections have been made.

To Connect Front Speakers Only:

If you only intend to listen to stereo sound (as opposed to surround sound), you may simply connect a single pair of speakers. To do so:

Using Banana Plugs:

1. Tighten the speaker wire binding posts. If you do not tighten the posts, they will not conduct sound properly to the speakers.
2. Insert the plug from the positive jack on the RIGHT FRONT speaker into the pin jack on the positive RIGHT FRONT post. Repeat for the negative plug.
3. Repeat step 2 for the positive and negative wires on the LEFT FRONT speaker.

Using Bare Wires:

1. Loosen the speaker wire binding posts.
2. Insert the wire from the positive jack on the RIGHT FRONT speaker into the U-shaped slot in the base of the positive RIGHT FRONT post. Lay the wire to the right of the post; that way, when you tighten the binding post, it will naturally twist the wire into the best connection. Tighten the post. Repeat for the negative wire on the RIGHT FRONT speaker as shown to the right.
3. Repeat step 2 for the positive and negative wires on the LEFT FRONT speaker.

To Connect Front and Surround Sound Speakers:

To listen to the full surround sound that this receiver can put out, connect front speakers, center, left surround, and right surround speakers. To do so:

Using Banana Plugs:

1. Tighten the speaker wire binding posts. If you do not tighten the posts, they will not conduct sound properly to the speakers.
2. Follow the steps under "To Connect Front Speakers Only" on this page to connect the RIGHT and LEFT FRONT speakers.
3. Insert the plug from the positive jack on the CENTER speaker into the pin jack on the positive CENTER post. Repeat for the negative plug.
4. Insert the plug from the positive jack on the RIGHT SURROUND speaker into the pin jack on the positive RIGHT SURROUND post. Repeat for the negative plug.
5. Repeat step 4 for the positive and negative wires on the LEFT SURROUND speaker.

Using Bare Wires:

1. Loosen the speaker wire binding posts.
2. Follow the steps under "To Connect Front Speakers Only" on this page to connect the RIGHT and LEFT FRONT speakers.
3. Insert the wire from the positive jack on the CENTER speaker into the U-shaped slot in the base of the positive CENTER post, as shown to the right.

   Tighten the post. Repeat for the negative wire.
4. Insert the wire from the positive jack on the RIGHT SURROUND speaker into the U-shaped slot on the base of the positive RIGHT SURROUND post. Tighten the post. Repeat for the negative wire.
5. Repeat step 4 for the positive and negative wires on the LEFT SURROUND speaker.

What if I Have a Powered Subwoofer?

Simply connect the subwoofer's audio cable to the receiver's subwoofer PRE OUT jack as shown to the left.

Never short circuit the + and - speaker wires.

Do not switch the left and right speaker wires or swap the + and - wires on the binding posts.

The speakers must have a nominal impedance of between 6Ω and 16Ω.

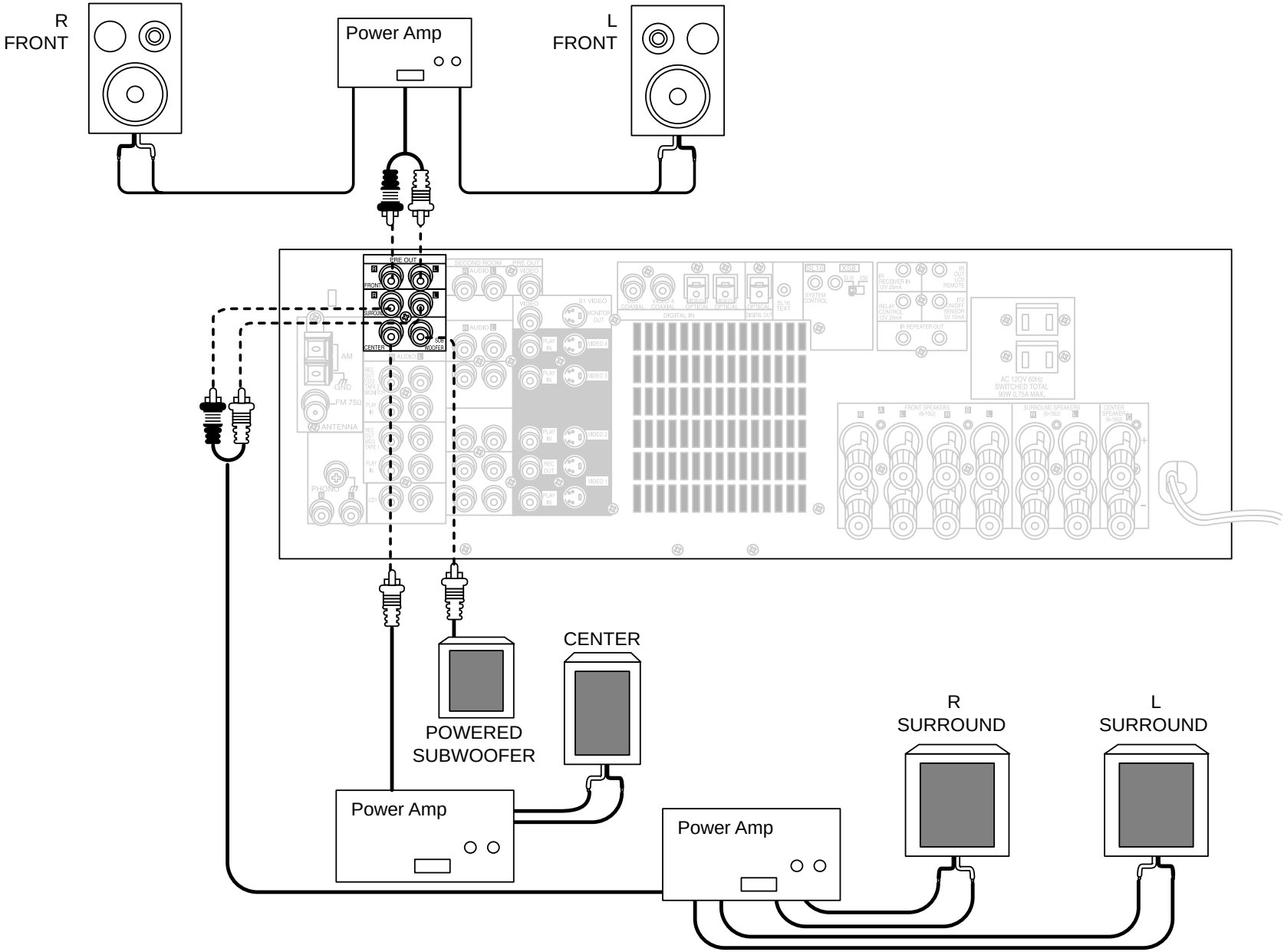
Using Speaker Wire

1. Loosen post

2. Insert wire

3. Tighten post

What if I Have an Amplifier?



What if I Have an Amplifier?, continued

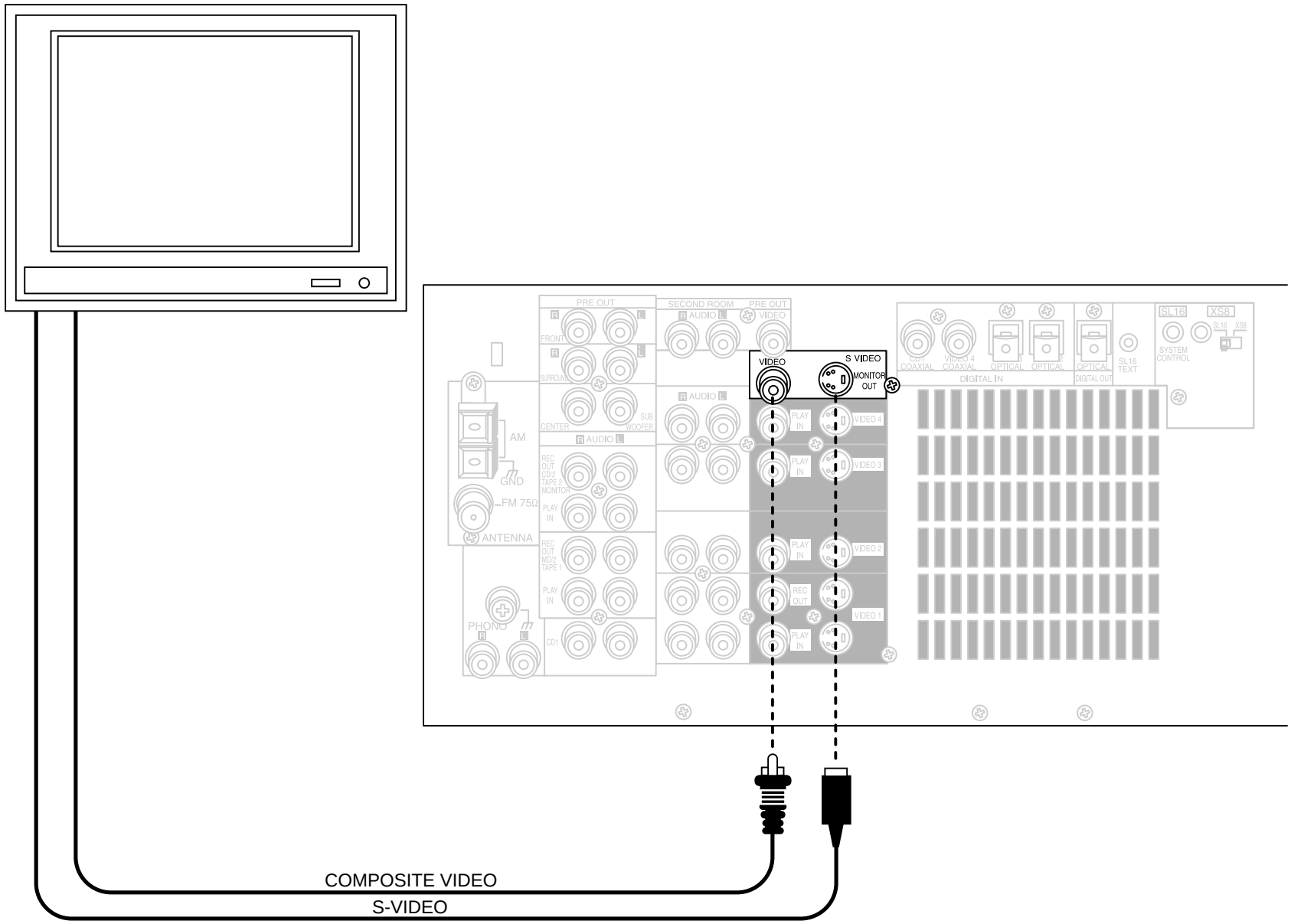
You can use supplemental power amplifiers for any of the channels instead of the receiver's built-in amplifiers.

Do not plug in the amplifiers or the receiver to AC power until all connections have been made.

To connect supplemental power amplifiers:

1. Using RCA audio cables (not supplied), connect the receiver's PRE OUT jacks to the amplifiers' input jacks as shown to the left.
2. Connect the speakers to the power amplifiers according to the amplifiers' instruction manuals.

Connecting Your TV



Connecting Your TV, continued

Do not plug in the receiver or devices to AC power until you have connected all your devices.

This section focuses on the connections from your TV to the VR-3100/VR-3090/KRF-V9992D. Please refer to your TV's instructions for more detail about its connection jacks and capabilities.

The instructions in this section show how to connect your TV as a monitor for the other video devices you connect (without using it as an audio/video source device itself). To use your TV as an audio/video source device, you must first connect it as described in this section, and also connect its audio/video output jacks as if they were cable TV tuner outputs, as described in "To Connect a Cable TV Tuner with a Composite (RCA) Video Output" on page 11.

To Connect a TV:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Connect a video cable from your TV's Video IN jack to the receiver's MONITOR OUT jack as shown to the left.
3. If your TV does not have any video input connections, you must purchase an RF modulator. The modulator will convert the video signal from the receiver to an RF signal that will work with the TV's antenna connections.

   Connect the receiver to the TV according to the RF modulator's instruction manual.
4. Go to "Noting Your Devices" on page 3 and note which jack you used to connect your TV. In addition, note the brand name and model number of the TV.

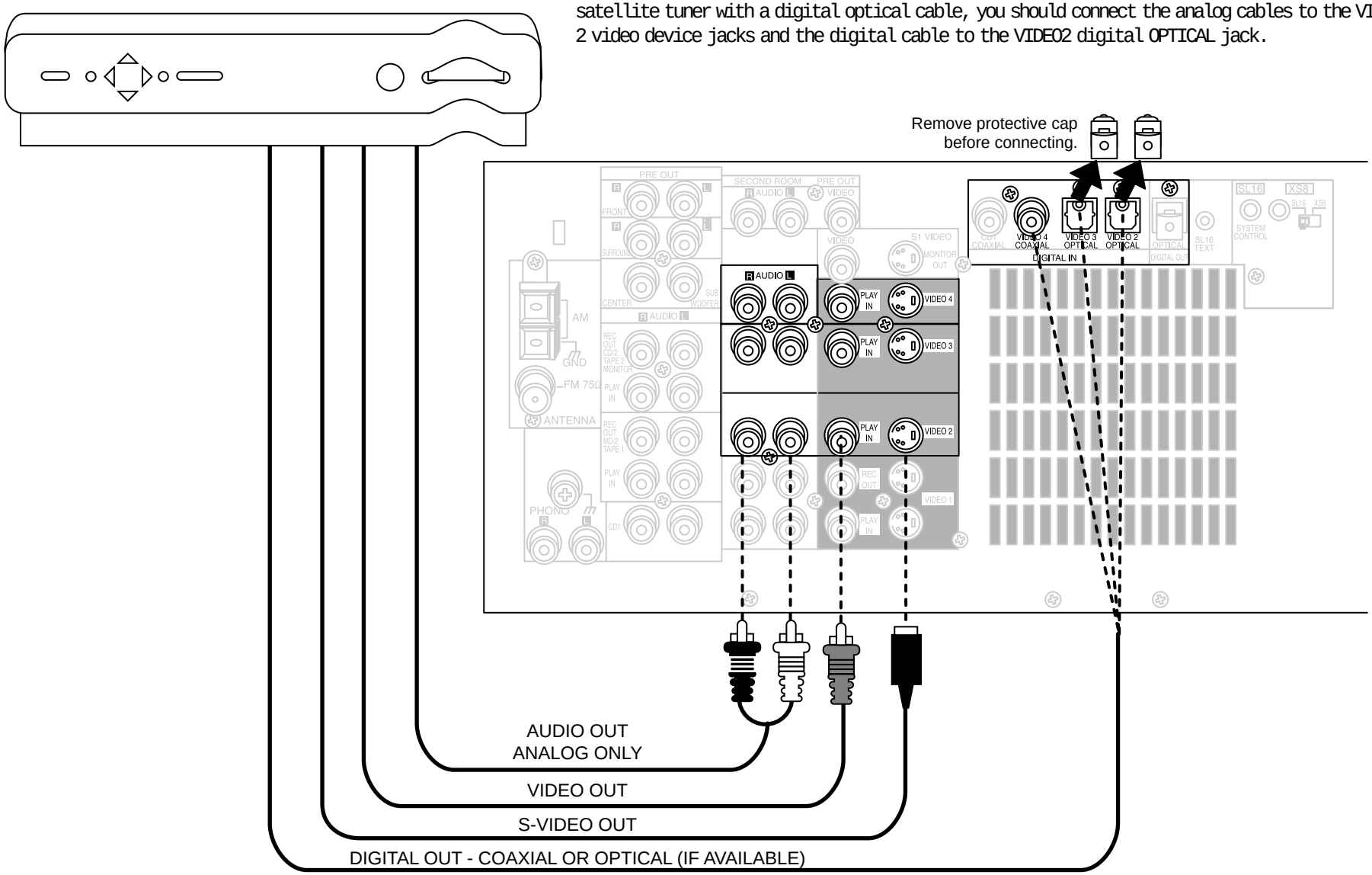
If you previously connected your TV directly to your VCR, you must now connect it through your new receiver.

What if I Want to Watch TV without Turning on the Receiver?

The connection described here sets your TV up as a monitor you can use to view media played on your other video devices (such as a VCR or DVD player). You can still watch TV without having to use the receiver.

Connecting Your Cable TV or Satellite Tuner

Note that video device jacks are linked to specific digital jacks. For example, if you connect a satellite tuner with a digital optical cable, you should connect the analog cables to the VIDEO 2 video device jacks and the digital cable to the VIDEO2 digital OPTICAL jack.



Connecting Your Cable TV or Satellite Tuner, continued

Do not plug in the receiver or devices to AC power until you have connected all your devices.

This section focuses on the connections from your cable or satellite tuner to the VR-3100/VR-3090/KRF-V9992D. Please refer to your tuner's instructions for more detail about its connection jacks and capabilities.

The instructions in this section show one of several possible variations on connecting your tuner. For further assistance on optional configurations, contact your cable or satellite provider.

To Connect a Cable TV Tuner with a Composite (RCA) Video Output:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Connect the audio and video cables from the cable tuner's Audio and Video Out jacks to the receiver's VIDEO 2, VIDEO 3, or VIDEO 4 PLAY IN jacks as shown to the left.
3. Go to "Noting Your Devices" on page 3 and note which jack you used to connect your tuner. In addition, note the brand name and model number of the tuner.

To Connect a Cable TV Tuner without a Composite (RCA) Video Output:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Connect the audio cables from the cable tuner's Audio Out jacks to the receiver's VIDEO 2, VIDEO 3, or VIDEO 4 PLAY IN jacks as shown to the left.
3. Leave the cable tuner's video out (RF jack) connected directly to your VCR or TV (wherever you already have it connected). See "How Do I Operate Devices?" on page 26 of the *Users' Guide* for details about using this setup.
4. Go to "Noting Your Devices" on page 3 and note which jack you used to connect your tuner. In addition, note the brand name and model number of the tuner.

To Connect a Satellite Tuner:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. If your satellite receiver has a digital output, use the table below to select a jack set:

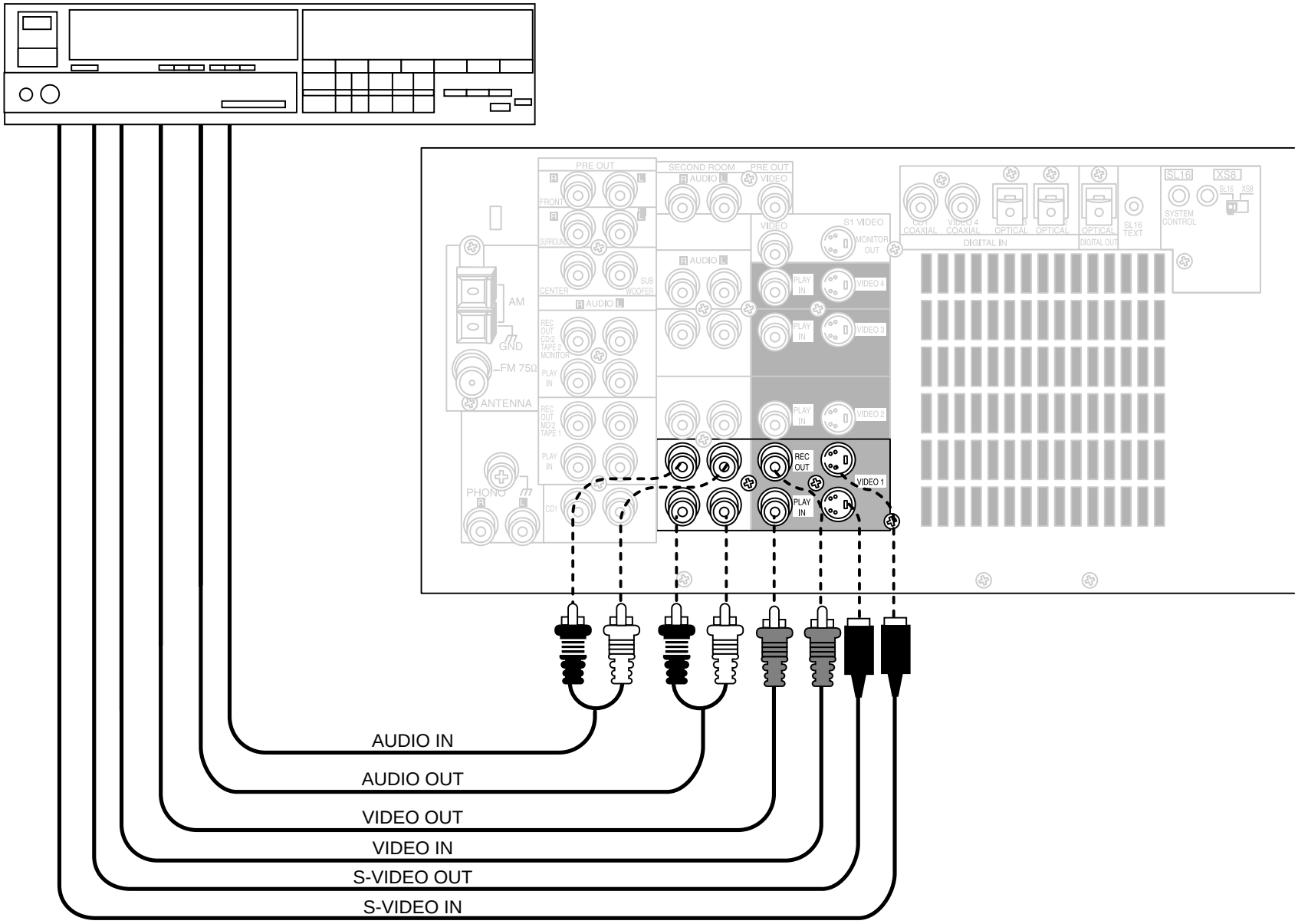
If your digital cable is...	Choose this jack set...
coaxial	VIDEO4
optical	VIDEO2 or 3

Note that the jack sets are linked, even though they are not adjacent. You must connect all of the cables from your satellite receiver to a linked jack set. For example, if you connect the analog cables to VIDEO2 and the digital optical cable to VIDEO3, your satellite receiver will not work correctly.

3. Connect the audio and video cables from the satellite tuner's Audio and Video Out jacks to the receiver's VIDEO 2, VIDEO 3, or VIDEO 4 PLAY IN jacks as shown to the left.
4. Go to "Noting Your Devices" on page 3 and note which jack you used to connect your tuner. In addition, note the brand name and model number of the tuner.

Connecting Your VCR(s)

1 2



Connecting Your VCR(s), continued

Do not plug in the receiver to AC power until you have connected all your devices.

This section focuses on the connections from your VCR to the VR-3100/VR-3090/KRF-V9992D. Please refer to your VCR's instructions for more detail about its connection jacks and capabilities.

The instructions in this section show one of several possible variations on connecting your VCR. For further assistance on optional configurations, contact the store where you purchased your receiver.

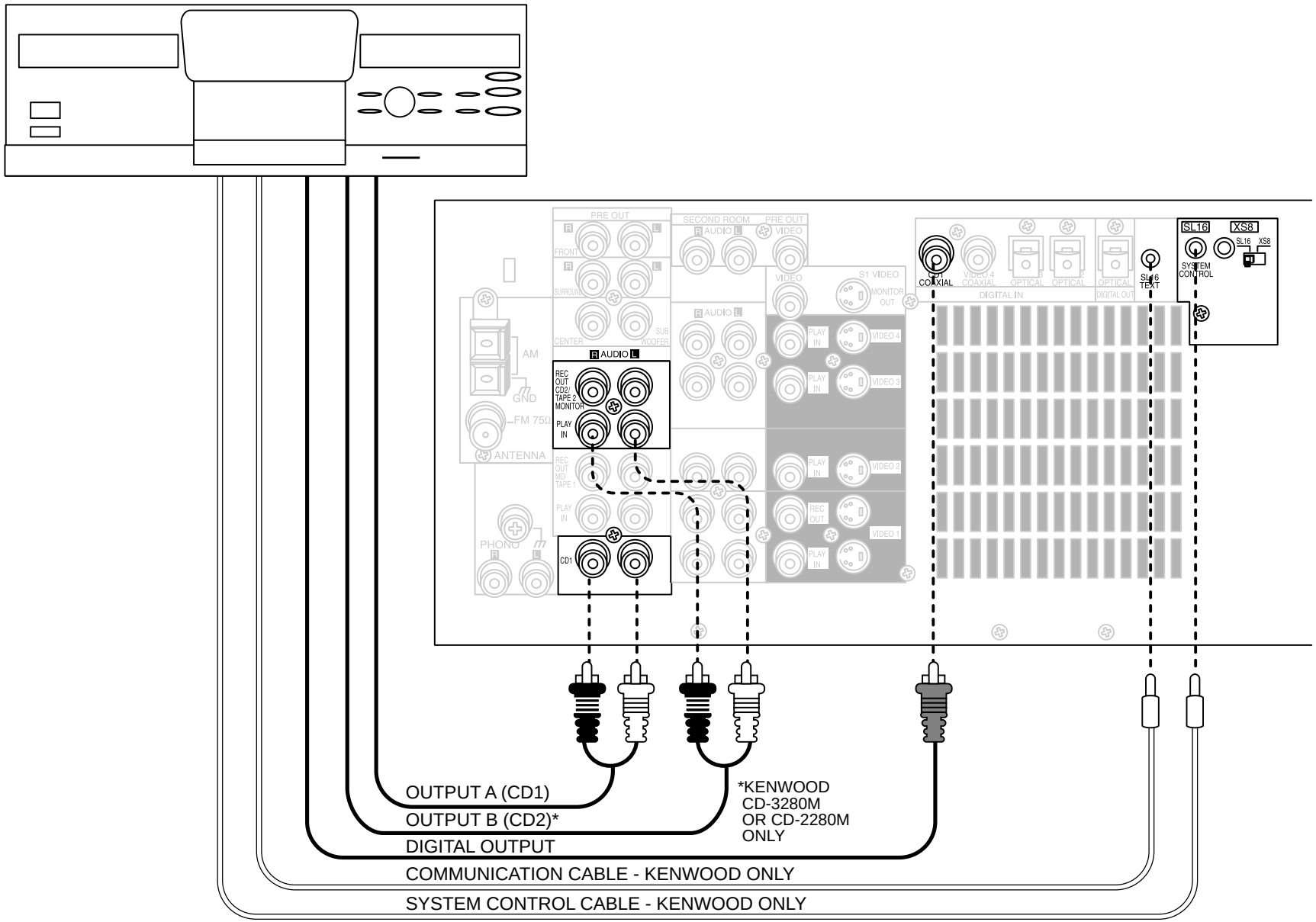
To Connect a Primary VCR:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Connect the audio and video cables from the VCR's Audio and Video jacks to the receiver's VIDEO 1 REC OUT and PLAY IN jacks as shown to the left.
3. Be sure to connect the VCR Video IN cable to the jack labeled REC OUT and the VIDEO OUT cable to the jack labeled PLAY IN.
4. Go to "Noting Your Devices" on page 3 and note which jack you used to connect your VCR. In addition, note the brand name and model number of the VCR.

To Connect a Secondary VCR:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Connect the audio and video cables from the VCR's Audio and Video jacks to the receiver's VIDEO 2 jacks.
3. There are no REC OUT jacks for VIDEO 2 — the second VCR will be play-only and cannot record.
4. Go to "Noting Your Devices" on page 3 and note which jack you used to connect your VCR. In addition, note the brand name and model number of the VCR.

Connecting Your Primary CD Player



Connecting Your Primary CD Player, continued

Do not plug in the receiver to AC power until you have connected all your devices.

This section focuses on the connections from your 200-Disc CD Changer to the VR-3100/VR-3090/KRF-V9992D. Please refer to your changer's instructions for more detail about its connection jacks and capabilities.

Each set of instructions in this section shows one of several possible variations on connecting your CD player(s). For further assistance on optional configurations, contact the store where you purchased your CD player(s).

The illustration shows a Kenwood 200-Disc CD Changer. Your CD player may look different.

Both the Kenwood CD-3280M and CD-2280M 200-Disc Changers contain two CD transports. You must connect these devices as though they were two CD players. (CD-2280M and CD-3280M are sold only in USA and Canada.)

What if I Have a Video CD-Compatible CD Player?

Connect the audio and video cables from the CD player to any unused Video jack set.

Do not connect the system control cable in this instance.

To Connect a Kenwood 200-Disc CD Changer:

1. Connect one set of audio cables from the 200-Disc Changer to the receiver's CD1 jacks. If you have a CD-3280M or CD-2280M, connect Output A to the receiver's CD1 jacks and Output B to the receiver's CD2/Tape 2 Monitor PLAY IN jacks as shown to the left.
2. Connect the coaxial digital cable from the changer to the receiver's CD1 COAXIAL jack as shown to the left.
3. Connect the system control cable from the changer to the SYSTEM CONTROL jack as shown to the left.

   Be sure that the SL16/XS8 switch on both the changer and the receiver is set to SL16.

   If you are connecting more than one Kenwood device with a system control cable, see "What if I Have Several Kenwood Devices (System Control Chaining)?" on page 28 for more information.
4. Connect the SL16 text cable (communication cable) from the changer to the receiver's SL16 TEXT jack as shown to the left.
5. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your CD changer. In addition, note the brand name and model number of the CD Changer.

See "What if I Connected a CD Player to the Jack Set PowerTouch Calls Tape2?" on page 36 to configure the CD2/Tape 2 as a CD2 input for the CD-2280M or CD-3280M.

To Connect Any Other Primary CD Player or Changer:

1. Connect the audio cables from the CD player's audio jacks to the receiver's CD1 jack set as shown to the left.
2. Connect the coaxial digital cable from the CD player's digital jack to the receiver's CD1 COAXIAL jack as shown to the left.
3. If you are connecting a Kenwood CD Player with system control, connect the system control cable from the CD player to the system control jack as shown to the left.

   Be sure that the SL16/XS8 switch on both the player/changer and the receiver is set appropriately.

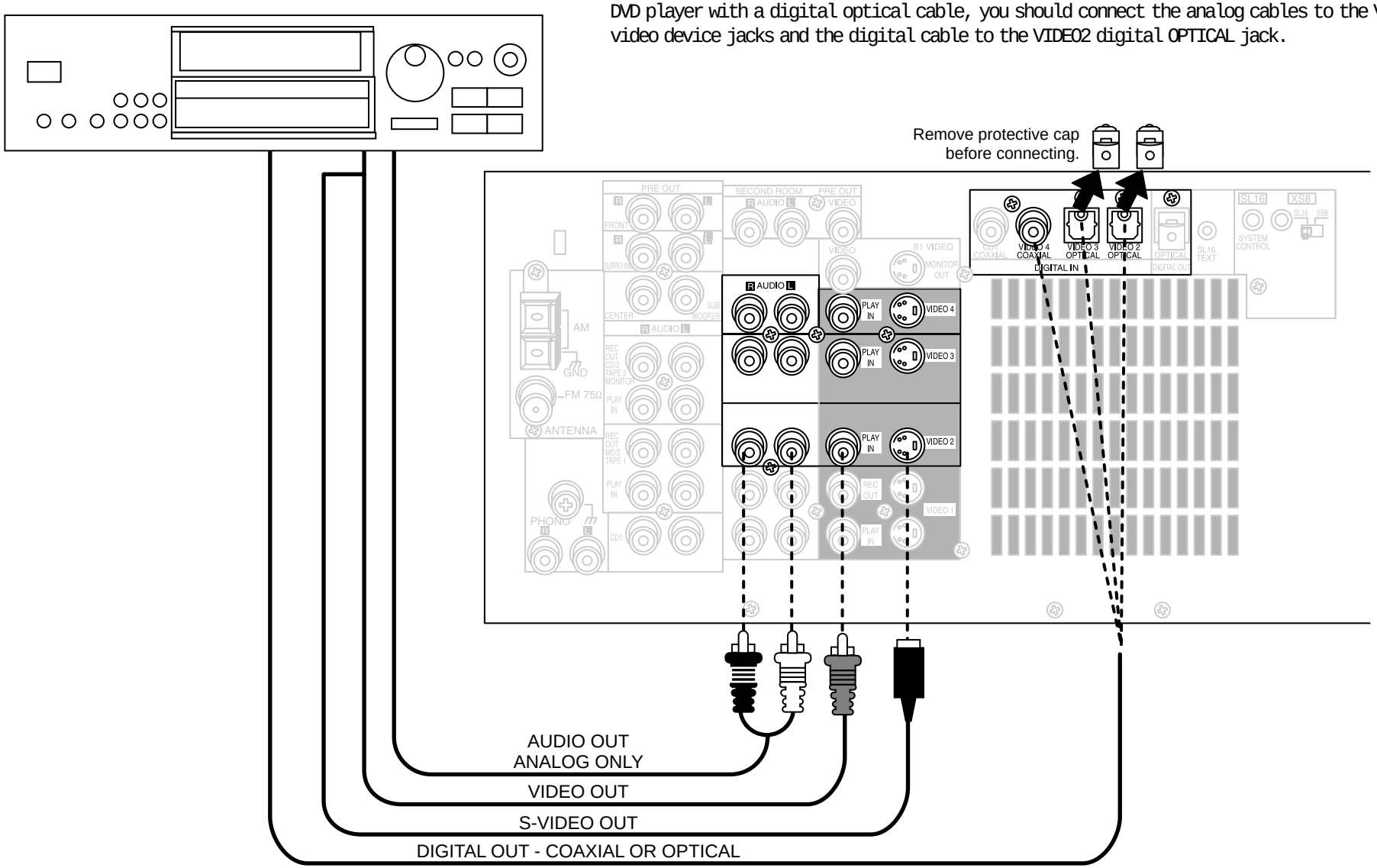
   If you are connecting more than one Kenwood device with a system control cable, see "What if I Have Several Kenwood Devices (System Control Chaining)?" on page 28 for more information.
4. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your CD player/changer. In addition, note the brand name and model number of the CD player or changer.

To Connect a Secondary CD Player:

See "Connecting Your Secondary CD Player or Tape Deck" on page 20.

Connecting Your DVD Player

Note that video device jacks are linked to specific digital jacks. For example, if you connect a DVD player with a digital optical cable, you should connect the analog cables to the VIDEO 2 video device jacks and the digital cable to the VIDEO2 digital OPTICAL jack.



Connecting Your DVD Player, continued

Do not plug in the receiver to AC power until you have connected all your devices.

This section focuses on the connections from your DVD player to the VR-3100/VR-3090/KRF-V9992D. Please refer to your DVD player's instructions for more detail about its connection jacks and capabilities.

The instructions in this section show one of several possible variations on connecting your DVD player. For further assistance on optional configurations, contact the store where you purchased your receiver.

To Connect a DVD Player:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Look at the digital cable that came with your DVD player. Use the table below to choose a jack set:

If your digital cable is...	Choose this jack set...
coaxial	VIDEO4
optical	VIDEO2 or 3

Note that the jack sets are linked, even though they are not adjacent. You must connect all of the cables from your DVD player to a linked jack set. For example, if you connect the analog cables to VIDEO2 and the digital optical cable to VIDEO3, your DVD player will not work correctly.

3. Connect the audio and video cables from the DVD's Audio and Video jacks to the receiver's PLAY IN jacks as shown to the left.
4. Connect the digital cable (either coaxial or optical) from the DVD's digital jack to the appropriate digital jack on the receiver as shown to the left.

   The illustration shows two digital connections, one for coaxial connection and one for optical connection. Your DVD player supports one or the other of these connection methods—do not connect both.

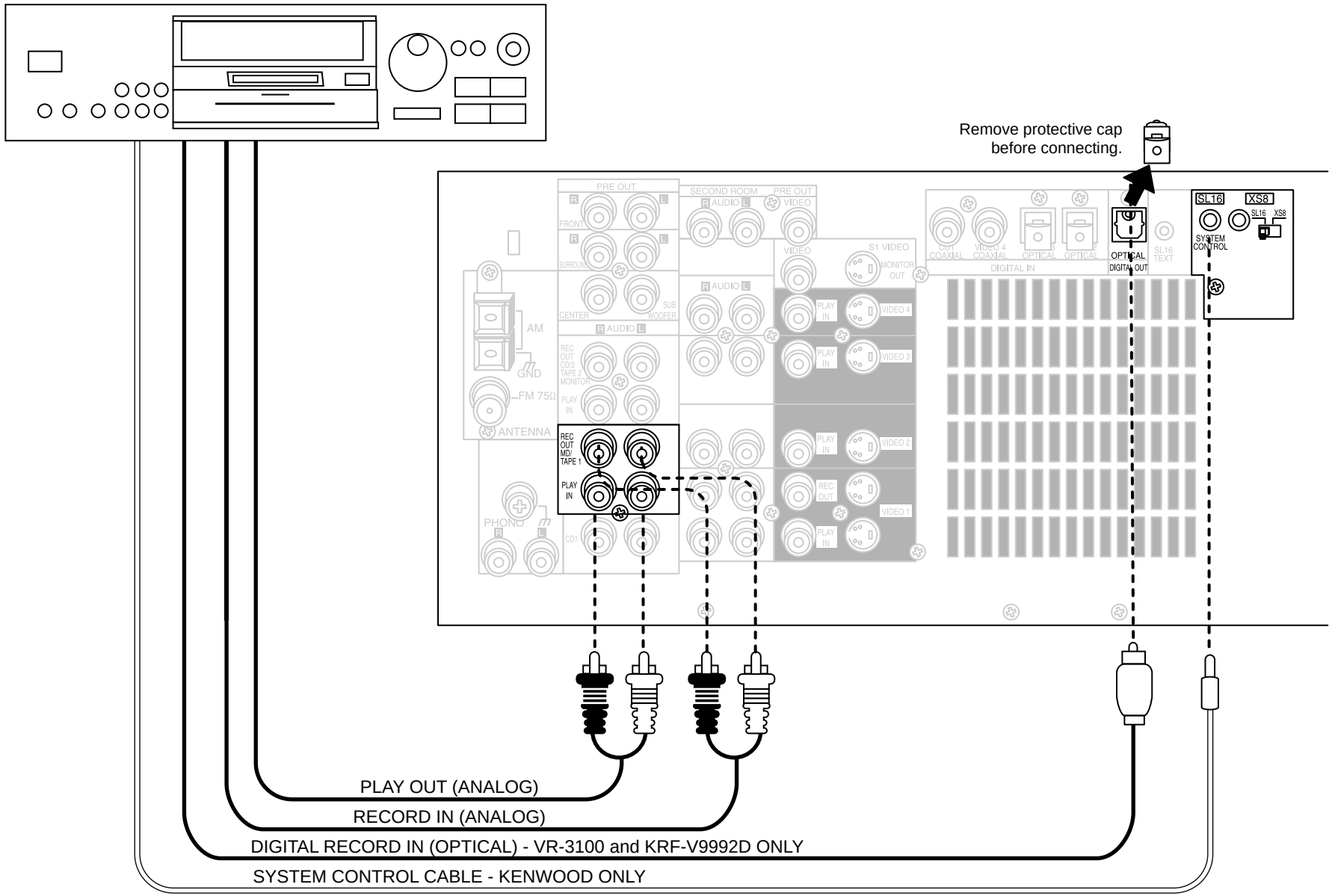
   If you use the optical digital cable, be sure to remove the protective cover from the optical jack before connecting.
5. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your DVD player. In addition, note the brand name and model number of the DVD player.

DTS disclaimer clause

DTS Digital Surround™ is a discrete 5.1 channel digital audio format available on CD, LD, and DVD software which consequently cannot be decoded and played back inside most CD, LD, or DVD players. For this reason, when DTS-encoded software is played back through the analog outputs of the CD, LD, or DVD player, excessive noise will be exhibited. To avoid possible damage to the audio system, proper precautions should be taken by the consumer if the analog outputs are connected directly to an amplification sysem. To enjoy DTS Digital Surroud™ playback, an external 5.1 channel DTS Digital Surround™ decoder system must be connected to the digital output (S/PDIF, AES/EBU, or TosLink) of the CD, LD or DVD player.

This unit is equipped with DTS Digital Surround™ decorder.

Connecting Your MD Recorder or Primary Tape Deck



Connecting Your MD Recorder or Primary Tape Deck, continued

Do not plug in the receiver to AC power until you have connected all your devices.

This section focuses on the connections from your MD recorder or tape deck to the VR-3100/VR-3090/KRF-V9992D. Please refer to your MD recorder or tape deck's instructions for more detail about its connection jacks and capabilities.

Each set of instructions in this section shows one of several possible variations on connecting your MD recorder or tape deck. For further assistance on optional configurations, contact the store where you purchased your MD recorder or tape deck.

To Connect an MD Recorder:

1. Connect the audio cable from the MD recorder's Play OUT jacks to the receiver's MD/TAPE 1 PLAY IN jacks as shown to the left.
2. Connect the audio cable from the MD recorder's Rec IN jacks to the receiver's MD/TAPE 1 REC OUT jacks, as shown to the left.
3. (VR-3100 and KRF-V9992D only) Remove the cover from the receiver's OPTICAL DIGITAL OUT jack, then connect the optical digital cable from the MD recorder's REC IN jack to the receiver's OPTICAL DIGITAL OUT jack as shown to the left.

   You only need to connect to the digital out jack if you will be recording from sources that are connected to a digital in jack, such as a CD or DVD player.
4. If you are connecting a Kenwood MD recorder, connect the system control cable from the MD recorder to the receiver. Be sure that the SL16/XS8 switch on the receiver is set to SL16. (MD recorder only supports SL16 system control mode.)

   If you are connecting more than one Kenwood device with a system control cable, see "What if I Have Several Kenwood Devices (System Control Chaining)?" on page 28.
5. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your MD recorder. In addition, note the brand name and model number of the MD recorder.

To Connect a Primary Tape Deck:

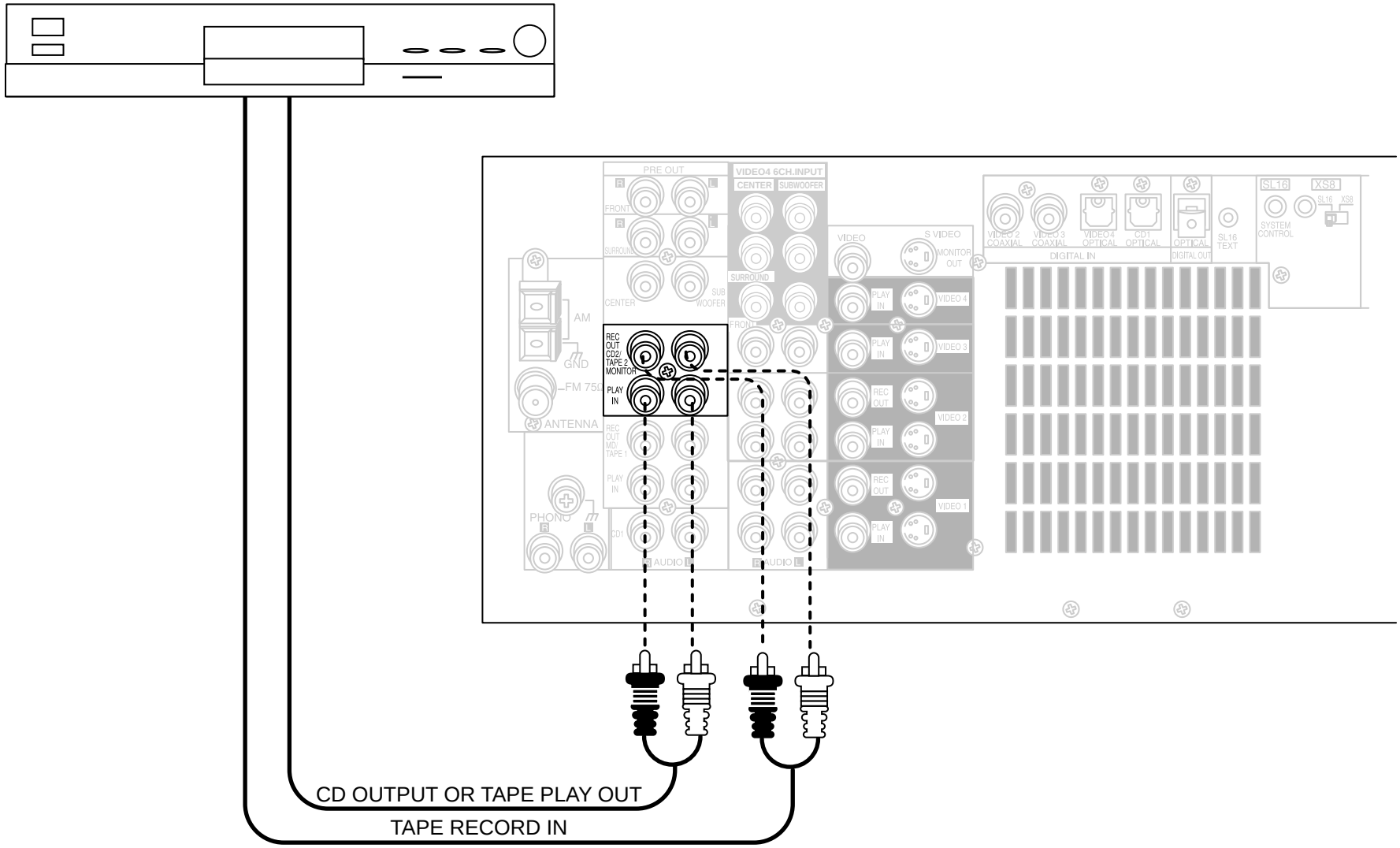
1. Connect the audio cable from the tape deck's Play OUT jacks to the receiver's MD/TAPE 1 PLAY IN jacks as shown to the left.
2. Connect the audio cable from the tape deck's Rec IN jacks to the receiver's MD/TAPE 1 REC OUT jacks as shown to the left.
3. If you are connecting a Kenwood tape deck with system control, connect the system control cable from the tape deck to the receiver. Be sure that the SL16/XS8 switch on both the tape deck and the receiver is set appropriately.

   If you are connecting more than one Kenwood device with a system control cable, see "What if I Have Several Kenwood Devices (System Control Chaining)?" on page 28 of the Connection and Setup Guide.
4. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your tape deck. In addition, note the brand name and model number of the tape deck.

To Connect a Secondary Tape Deck

See "Connecting Your Secondary CD Player or Tape Deck" on page 20.

Connecting Your Secondary CD Player or Tape Deck



Connecting Your Secondary CD Player or Tape Deck, continued

Do not plug in the receiver to AC power until you have connected all your devices.

This section focuses on the connections from your CD player or tape deck to the VR-3100/VR-3090/KRF-V9992D. Please refer to your CD player or tape deck's instructions for more detail about its connection jacks and capabilities.

Each set of instructions in this section shows one of several possible variations on connecting your CD player or tape deck. For further assistance on optional configurations, contact the store where you purchased your CD player or tape deck.

Do not connect a system control cable from any unit connected via the CD2/TAPE2 MONITOR jacks.

To Connect a Secondary CD Player:

1. Connect the audio cables from the CD player's audio jacks to the receiver's CD2/TAPE 2 MONITOR PLAY IN jack set as shown to the left.

   Do not connect the system control cable from the second CD player, even if it supports system control.

2. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your CD player. In addition, note the brand name and model number of the CD player.

   When you set up the PowerTouch remote to control your devices, be sure to follow the procedure under "What if I Connected a CD Player to the Jack Set PowerTouch Calls Tape2?" on page 36.

If you connect a second tape deck, you cannot connect a second CD player.

To Connect a Secondary Tape Deck:

1. Connect the audio cable from the tape deck's Play OUT jacks to the receiver's CD2/TAPE 2 MONITOR PLAY IN jacks.

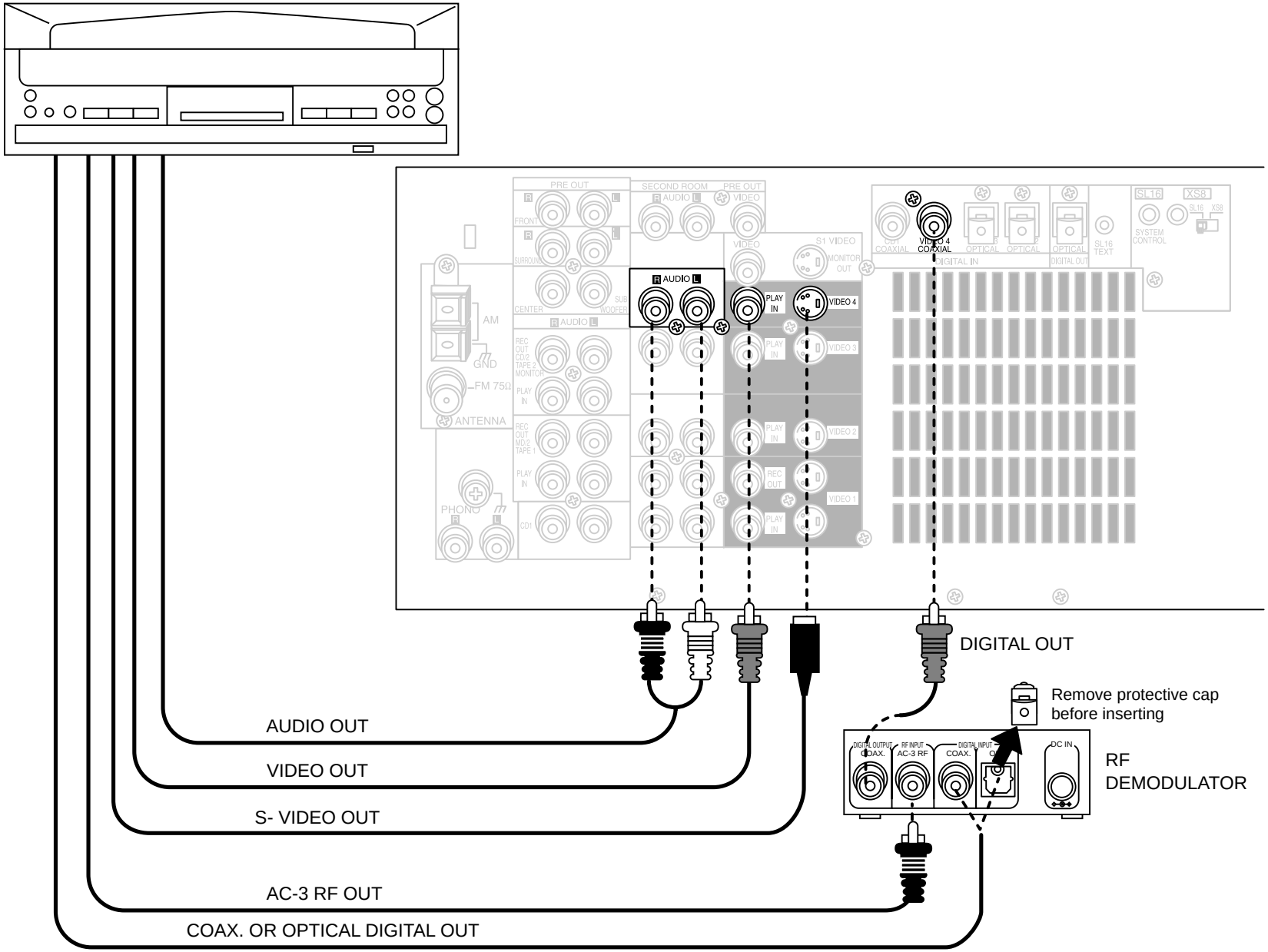
2. Connect the audio cable from the tape deck's Rec IN jacks to the receiver's CD2/TAPE 2 MONITOR REC OUT jacks.

   Do not connect the system control cable from the second tape deck, even if it supports system control.

3. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your tape deck. In addition, note the brand name and model number of the tape deck.

If you connect a second CD player, you cannot connect a second tape deck.

Connecting Your Laser Disc Player (with AC-3 RF Output)



Connecting Your Laser Disc Player (with AC-3 RF Output), continued

Do not plug in the receiver to AC power until you have connected all your devices.

You must purchase an RF Demodulator (DEM-9991D) if you plan to operate a player with a Dolby Digital (AC-3) RF Output with this receiver.

These instructions describe how to connect a laser disc player with an AC-3 RF Output. If your laser disc player does not have an AC-3 RF output, see "Connecting Your Laser Disc Player (without AC-3 RF Output)" on page 24. Please refer to your laser disc player's instructions for more detail about its connection jacks and capabilities.

The instructions in this section show one of several possible variations on connecting your laser disc player. For further assistance on optional configurations, contact the store where you purchased your receiver.

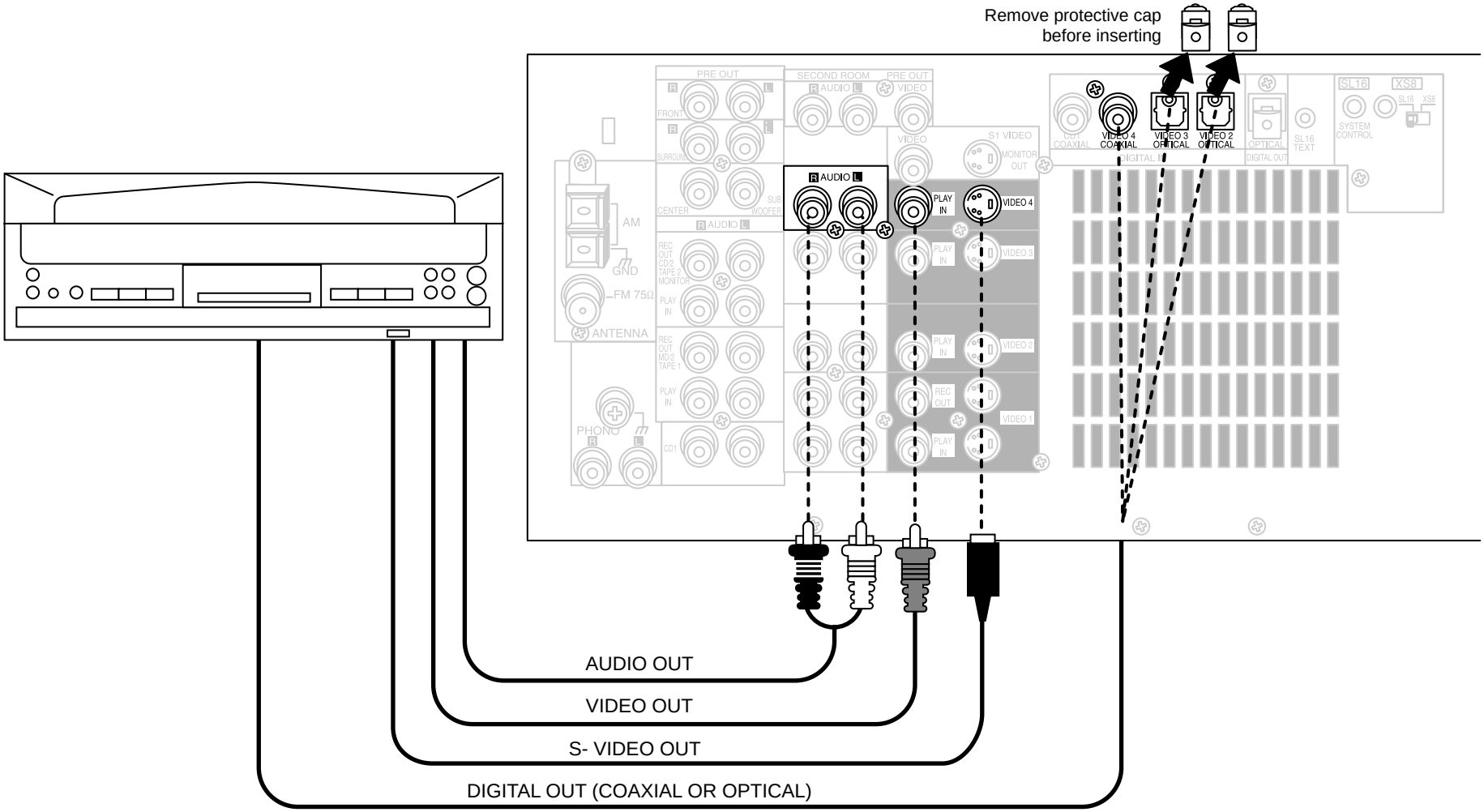
To Connect an AC-3 RF Output Laser Disc Player:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Connect the audio cables from the laser disc player's Audio OUT jacks to the receiver's AUDIO jacks (VIDEO 4 PLAY IN) as shown to the left.
3. For the video cable connection, you *must* use the VIDEO4 jack set, as that is the only set with a coaxial digital connection.

   Do not connect the digital cable (coaxial or optical) yet; it must be connected via the demodulator as described in the following steps.
4. Connect the AC-3 RF coaxial cable from the laser disc player's AC-3 RF OUT jack to the demodulator's RF INPUT AC-3 RF jack as shown to the left.
5. Connect the digital cable (either coaxial or optical) from the laser disc player's digital jack to the appropriate DIGITAL INPUT jack on the demodulator as shown to the left. Set the switch on the front of the DEM-9991D to the type of connection you made.
6. Connect the coaxial digital cable from the demodulator's DIGITAL OUTPUT COAX. jack to the receiver's VIDEO4 COAXIAL jack.
7. Connect the demodulator's supplied 12V AC adapter to the DC IN jack on the demodulator. Do not plug the adapter into the wall until you have finished making all connections to the receiver.
8. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your laser disc player. In addition, note the brand name and model number of the laser disc player.

Connecting Your Laser Disc Player (without AC-3 RF Output)

Note that video device jacks are linked to specific digital jacks. For example, if you connect a laser disc player with a digital optical cable, you should connect the analog cables to the VIDEO 2 or VIDEO 3 video device jacks and the digital cable to the VIDEO2 or VIDEO 3 digital optical jack.



Connecting Your Laser Disc Player (without AC-3 RF Output), continued

Do not plug in the receiver to AC power until you have connected all your devices.

These instructions describe how to connect a laser disc player with a PCM Digital Output. If your player has a Dolby Digital (AC-3) RF Out, see "Connecting Your Laser Disc Player (with AC-3 RF Output)" on page 22. This configuration does not allow Dolby Digital laser discs to be played. Please refer to your laser disc player's instructions for more detail about its connection jacks and capabilities.

The instructions in this section show one of several possible variations on connecting your laser disc player. For further assistance on optional configurations, contact the store where you purchased your receiver.

To Connect a PCM Digital Output Laser Disc Player:

1. Review the information under "Before You Begin" on page 1. It contains important notes about the types of video connections you can make.
2. Look at the digital connection on your laser disc player. Use the table below to choose a jack set:

If your digital cable is...	Choose this jack set...
coaxial	VIDEO4
optical	VIDEO2 or 3

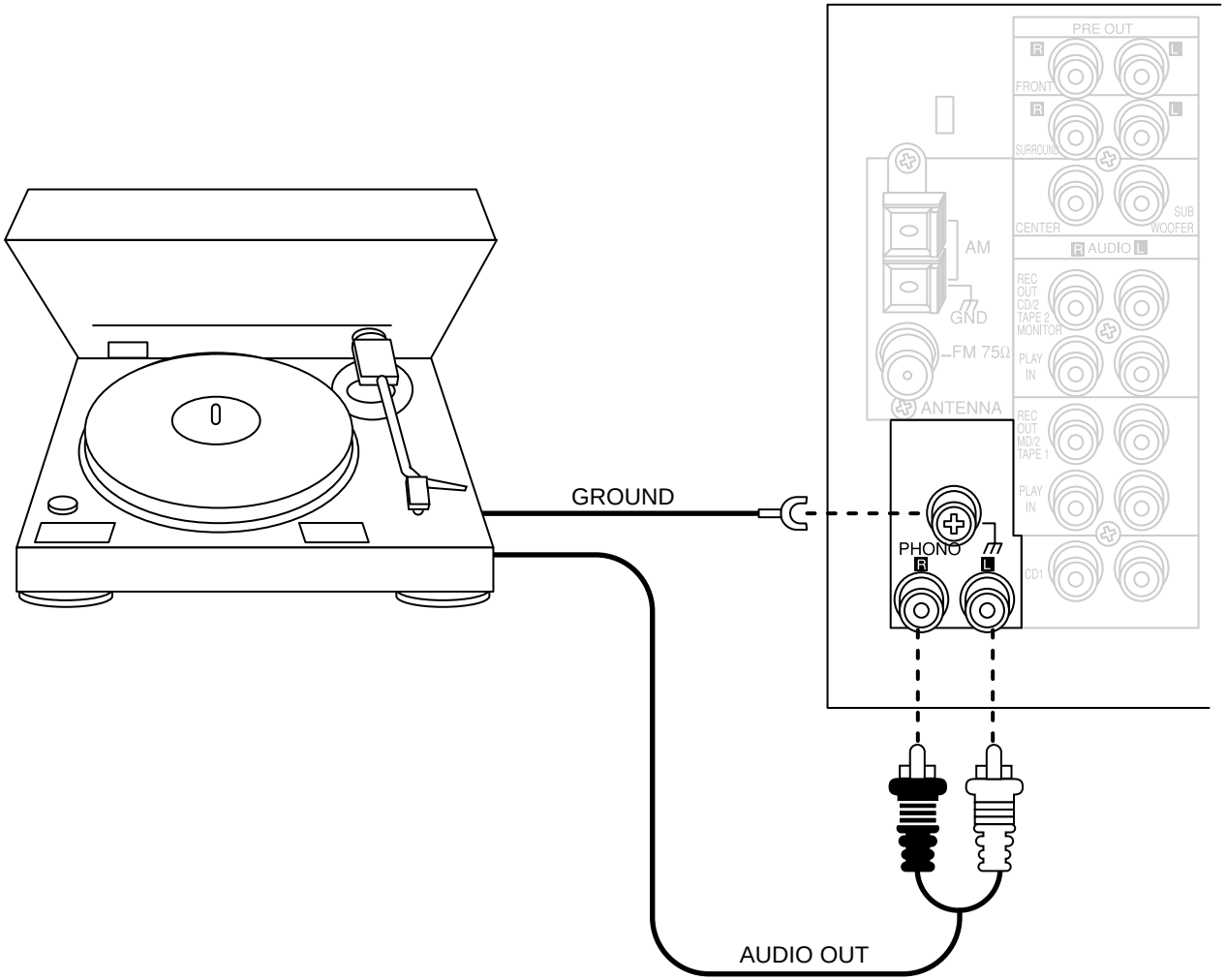
   Note that the jack sets are linked, even though they are not adjacent. You must connect all of the cables from your laser disc player to a linked jack set. If you connect the analog cables to VIDEO2 and the digital optical cable to VIDEO3, your laser disc player will not work correctly.

3. Connect the audio cables from the laser disc player's Audio OUT jacks to the receiver's AUDIO jacks as shown to the left.
4. Connect the video cable from the laser disc player's Video OUT jack to the receiver's VIDEO PLAY IN jack as shown to the left.
5. Connect the digital cable (either coaxial or optical) from the laser disc player's digital jack to the appropriate digital jack on the receiver as shown to the left. Your laser disc player supports only one of the digital connection methods—do not connect both.

   If you use the optical digital cable, be sure to remove the protective cover from the optical jack before connecting.

6. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your laser disc player. In addition, note the brand name and model number of the laser disc player.

Connecting Your Turntable/Record Player



NOTES

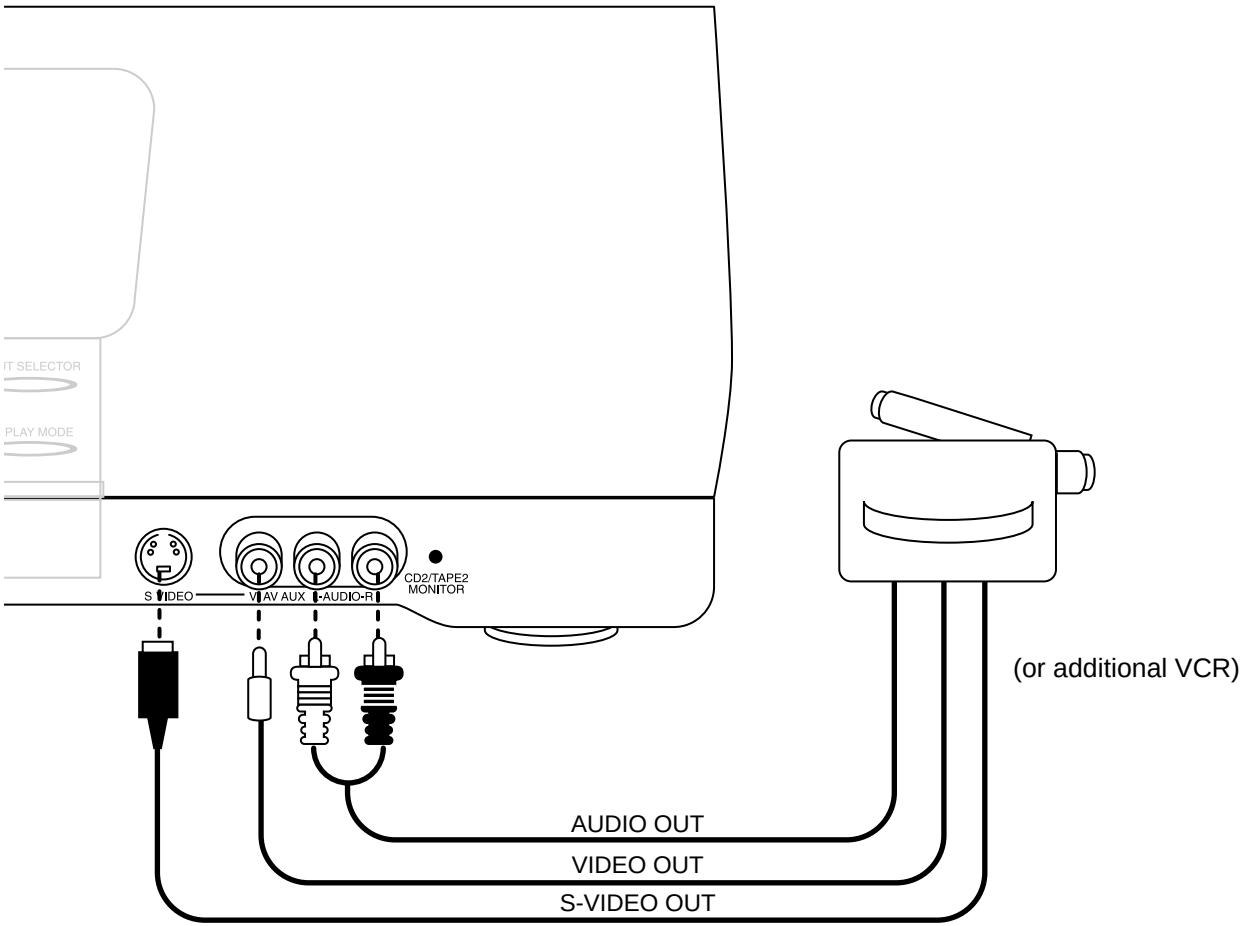
Do not plug in the receiver to AC power until you have connected all your devices.

This section focuses on the connections from your turntable/record player to the VR-3100/VR-3090/KRF-V9992D. Please refer to your turntable/record player's instructions for more detail about its connection jacks and capabilities.

To Connect a Turntable/Record Player:

1. Connect the audio cables from the turntable audio output jacks to the receiver's PHONO R and L jacks.
2. If your turntable includes a ground cable, connect the ground cable to the receiver's PHONO ground jack.
3. Go to "Noting Your Devices" on page 3 and note which jacks you used to connect your turntable. In addition, note the brand name and model number of the turntable.

Connecting a Camcorder or Additional VCR



This section focuses on the connections from your camcorder or VCR to the front of the VR-3100/VR-3090/KRF-V9992D. Please refer to your camcorder or VCR's instructions for more detail about its connection jacks and capabilities.

These instructions describe how to connect a camcorder or VCR quickly and probably temporarily to the front of the receiver. If you want a less cluttered and more permanent connection, see "Can I Connect an Additional VCR Permanently?", below.

To Connect a Camcorder or Additional VCR:

Connect the audio and video cables from the camcorder or VCR's Audio and Video jacks to the receiver's front panel jacks as shown to the left.

Can I Connect an Additional VCR Permanently?

Yes. To do so, follow the instructions under "To Connect a Secondary VCR:" on page 13.

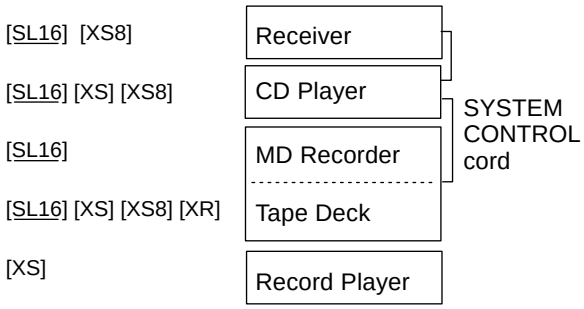
What if I Have Several Kenwood Devices (System Control Chaining)?

Kenwood provides convenient control of the entire system via two control modes:

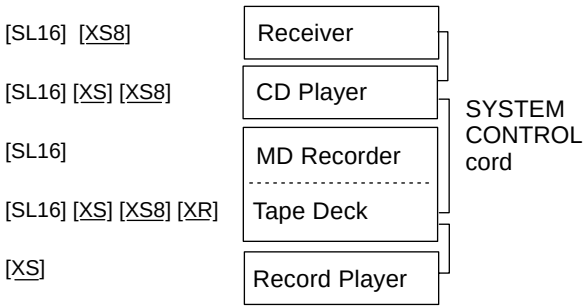
- SL16, which allows you to connect SL16 devices only
- XS8, which allows you to connect XS, XS8, and XR devices

You cannot mix SL16 and XS8 settings. All devices connected via system control cables must use the same setting.

An Example of SL16 Chained Connections:



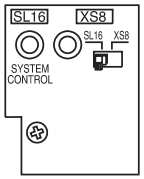
An Example of XS8 Chained Connections:



To switch between the two modes :

1. Slide the selector switch (shown below) from SL16 (the factory-set default) to XS8.
2. VR-3100/VR-3090 : Unplug the AC power cord and plug it back in.

   KRF-V9992D : Turn the receiver's power switch off, and on again.



System Control connection allows you to:

- See the current status of the selected source device, such as Play or Stop (SL16 devices only).
- control connected devices via the remote
- switch the receiver's input automatically to a connected device when you start playback from that device
- synchronize recording a CD automatically when you start playback from the connected CD player

Make sure the units are connected to the correct jacks on the receiver—for example, no device connected to the CD2/TAPE 2 MONITOR jacks can use a system control cable.

Some CD players and cassette decks do not support the SL16 system control mode. Do not include these devices in a set of SL16 chained connections; where appropriate, use the XS8 mode instead.

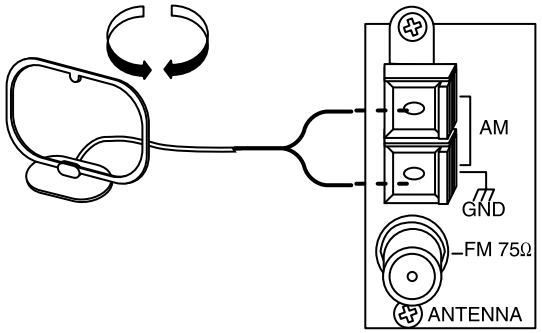
Do not mix connections of the two modes: if a device does not support the mode you are using for chaining, do not connect that device.

Do not connect system control cables to any device not specified by Kenwood. Using system control functions with a device that does not support them can damage the device.

Make sure system control plugs are firmly seated in the appropriate jacks.

Connecting the Antennas

AM Loop Antenna

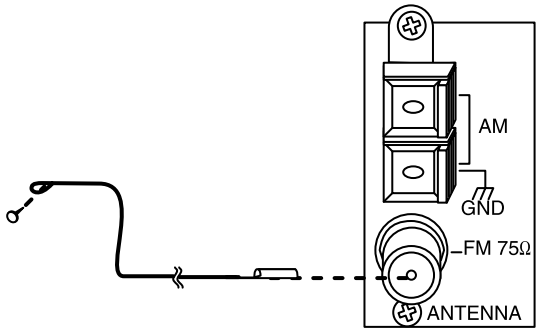


Your new receiver comes with an AM loop antenna for AM radio reception. To connect the AM antenna:

1. Insert the antenna loop into the base and position the loop.
2. Open the receiver's antenna terminal levers.
3. Insert the antenna's wires into the terminal as shown above.
4. Close the antenna terminal levers to lock the wires in place.
5. Adjust the antenna loop as necessary to improve reception.

To prevent hum interference, keep the AM antenna wires away from speaker wires, AC power cords, the TV chassis, and the receiver.

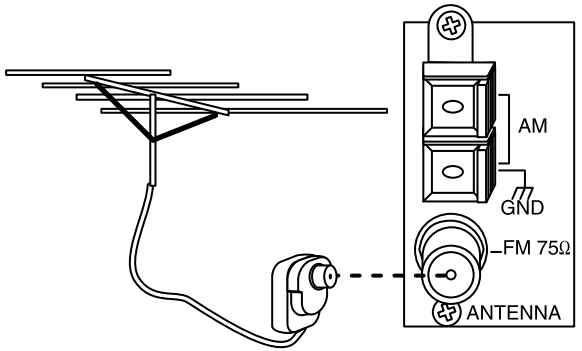
FM Indoor Antenna



Your new receiver also comes with an FM indoor antenna for FM radio reception. To connect the FM antenna:

1. Attach the antenna sheath to the pole in the center of the receiver's FM antenna jack, as shown above. When you attach the sheath for the first time, you may need to exert quite a bit of pressure.
2. Adjust the antenna as necessary to improve reception.
3. Tack the looped end of the antenna in the location that provides the best reception.

FM Outdoor Antenna



Kenwood recommends a permanently installed outdoor FM antenna for best FM reception. To connect an outdoor FM antenna:

1. Connect the antenna wire to a standard, commercially available antenna adapter as shown above.
2. Connect the adapter to the receiver's FM antenna jack.

What if I Have Cable Radio?

If you have cable radio, contact your cable provider for assistance with connecting to the VR-3100/VR-3090/KRF-V9992D.